

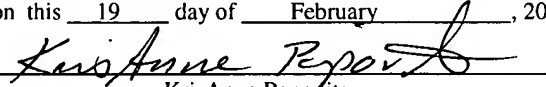
## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Mark J. Pavicic	
Application No.:	10/600,319	
Filing Date:	June 20, 2003	Examiner: Not Yet Known
Title:	<b>SYSTEM FOR DIGITIZING TRANSIENT SIGNALS</b>	Group Art Unit: 2819

## TRANSMITTAL LETTER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

I hereby certify that this document is being sent via First Class U.S. mail  
addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA  
22313-1450 on this 19 day of February, 2004.

  
KrisAnne Popovits

Dear Sir:

The following documents are enclosed in connection with the above-referenced patent application:

1. Supplemental Information Disclosure Statement Under 37 CFR 1.97(b) (2 pages);
2. Form PTO/SB/08A (2 sheets, submitted in duplicate);
3. Copies of Six (6) References Cited;
4. Corrected Form PTO/SB/08A [to replace Form PTO/SB/08A filed with Information Disclosure Statement on November 4, 2003] (4 sheets, submitted in duplicate); and
5. Return Receipt Postcard.

Respectfully submitted,

DORSEY & WHITNEY LLP  
Customer Number 25763

Date:


Feb 19, 2004

By:



Stuart R. Hemphill  
Reg. No. 28,084  
Intellectual Property Department  
Suite 1500  
50 South Sixth Street  
Minneapolis, MN 55402-1498  
(612) 340-2734

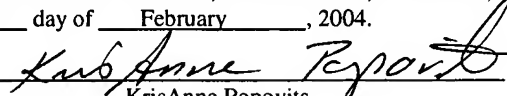
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First Named Inventor:	Mark J. Pavicic		Examiner:	Not Yet Known
Application No.:	10/600,319		Group Art Unit:	2819
Filing Date:	June 20, 2003			
Title:	SYSTEM FOR DIGITIZING TRANSIENT SIGNALS			

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT  
UNDER 37 CFR § 1.97(b)**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

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addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-  
1450 on this 19 day of February, 2004.

  
KrisAnne Popovits

Dear Sir:

Pursuant to 37 CFR § 1.97(b), the references listed on the attached Form PTO/SB/08A (2 sheets, submitted in duplicate) are brought to the attention of the Examiner for consideration in connection with the examination of the above-identified patent application. Copies of the identified references are enclosed as necessary. This IDS is being filed before the mailing of a first office action on the merits. In accordance with 37 CFR 1.97(b), no statement or fee is required.

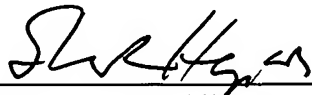
Also enclosed herewith for filing in the above-identified patent application is a corrected Form PTO/SB/08A (4 sheets, submitted in duplicate), originally filed with the Information Disclosure Statement on November 4, 2003, correctly identifying two publications which inadvertently contained errors. On sheet 2, the second document contains a spelling error in the title: "microscopic" should read - - microstrip - -. On sheet 4, the fifth document contains a spelling error in the author's name: "LeCrey" should read - - LeCroy - -. Please substitute the enclosed corrected Form PTO/SB/08A for the Form PTO/SB/08A previously submitted on November 4, 2003.

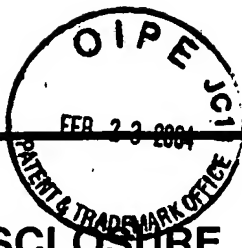
Pursuant to the Manual of Patent Examining Procedure, Chapter 609, applicant requests that the Examiner consider each of the listed documents and initial and return to the undersigned a copy of the enclosed Form PTO/SB/08A (submitted in duplicate).

Respectfully submitted,

DORSEY & WHITNEY LLP  
Customer Number 25763

Date: Feb 19, 2004

By:   
Stuart R. Hemphill  
Reg. No. 28,084  
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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Application Number	10/600,319
Filing Date	June 20, 2003
First Named Inventor	Mark J. Pavicic
Art Unit	2819
Examiner Name	Not Yet Known
Attorney Docket Number	14676.01

Sheet 1 of 2

**U.S. PATENT DOCUMENTS**

*Examiner Initials	Cite No.	DOCUMENT NUMBER Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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**FOREIGN PATENT DOCUMENTS**

*Examiner Initial	Cite No.	FOREIGN PATENT DOCUMENT		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	TRANSLATION	
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

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Art Unit	2819
Examiner Name	Not Yet Known
Attorney Docket Number	14676.01

Sheet

2

of

2

**OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS**

*Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
		P. Barale, "STAR SCA/ADC Datasheet." September 1994.	<input type="checkbox"/>	<input type="checkbox"/>
		Datasheet for Acquiris waveform digitizer model D210, 500 MHz 2GS/s; June 1999; pp. 1-8.	<input type="checkbox"/>	<input type="checkbox"/>
		Datasheet for LeCroy PXD222 PXI Digitizers, July 2001.	<input type="checkbox"/>	<input type="checkbox"/>
		Advertisement for GaGe CompuScope 85GC, February 1, 2002.	<input type="checkbox"/>	<input type="checkbox"/>
		O. B. Milgrome, S. A. Kleinfelder, "A Monolithic CMOS 16 Channel, 12 Bit, 10 Microsecond Analog to Digital Converter Integrated Circuit", IEEE Trans Nuc Sci, Vol. 20, NO. 4, August 1993; pp. 721-723.	<input type="checkbox"/>	<input type="checkbox"/>
		S. A. Kleinfelder, "A 4096 Cell Switched Capacitor Analog Waveform Storage Integrated Circuit", IEEE Trans Nucl Sci, Vol. 37, No. 3, June 1990; pps. 1230-1236.	<input type="checkbox"/>	<input type="checkbox"/>
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First Named Inventor	Mark J. Pavicic
Art Unit	2819
Examiner Name	Not Yet Known

Sheet	1	of	4	Attorney Docket Number	14676.01
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*Examiner Initials	Cite No.	DOCUMENT NUMBER Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 2,600,193	6-10-1952	Bell, Jr., et al.	
		US- 3,898,656	8-5-1975	Jensen	
		US- 4,271,488	6-2-1981	Saxe	
		US- 4,353,057	10-5-1982	Bernet et al.	
		US- 4,811,285	3-7-1989	Walker et al.	
		US- 4,833,445	5-23-1989	Buchele	
		US- 4,922,452	5-1-1990	Larsen et al.	
		US- 5,144,525	9-1-1992	Saxe et al.	
		US- 5,257,025	10-26-1993	LeCroy, Jr.	
		US- 5,406,507	4-11-1995	Knierim et al.	
		US- 5,537,113	7-16-1996	Kawabata	
		US- 5,796,361	8-18-1998	Levinson	
		US- 6,091,619	7-18-2000	Kogan	
		US- 6,097,232	8-1-2000	McKinney	

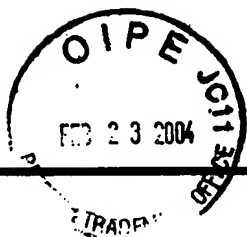
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Attorney Docket Number	14676.01

Sheet

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of

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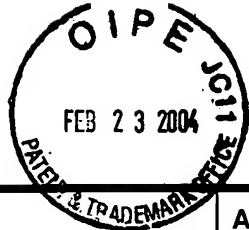
**OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS**

*Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
			YES	NO
		R. Ball & D. Nitz, "A First Look at Switched Capacitor Array Technology", May 1996; pp. 1-11.	<input type="checkbox"/>	<input type="checkbox"/>
		M. Feuerstack-Raible, "Overview of microstrip read-out chips", Dec. 1999; pp. 1-14.	<input type="checkbox"/>	<input type="checkbox"/>
		F. Anghinolfi et al., "The ADAM Chip - Specification and Measurement Results", ATLAS Internal Note, INDET-113, Oct. 1995; pp. 1-6.	<input type="checkbox"/>	<input type="checkbox"/>
		S.R. Klein et al., "Front End Electronics for the STAR TPC", STAR Note #239, pp. 1-8. (Also published in IEEE Trans on Nuclear Science, v43, 1768 (1996)).	<input type="checkbox"/>	<input type="checkbox"/>
		M.S. Emery et al., "A Multi-Channel ADC for Use in the PHENIX Detector", IEEE Trans Nucl Sci, Vol. 44, No. 3, June 1997; pp. 374-378.	<input type="checkbox"/>	<input type="checkbox"/>
		M.S. Emery et al., "Timing and Control Requirements for a 32-Channel AMU-ADC ASIC for the PHENIX Detector", IEEE N5597 Nuc Sci Sym, New Mexico, Nov. 1997.	<input type="checkbox"/>	<input type="checkbox"/>
		F. Anghinolfi et al., "AROW - A 128 Channel Analogue Pipeline with Wilkenson ADC and Sparsification ASIC", The ATLAS Collaboration, 1995.	<input type="checkbox"/>	<input type="checkbox"/>
		T. Zimmerman et al., "SVX3: A deadtimeless readout chip for silicon strip detectors", Nuc Inst Meth, A409, 368 (1998).	<input type="checkbox"/>	<input type="checkbox"/>
		S. Nahn, "Status of CDF Tracking", slide with title "SVX3D ASIC", presentation at ICHEP, July 2002.	<input type="checkbox"/>	<input type="checkbox"/>
		"SVX4 Chip Specifications", May 2001; pp. 1-4.	<input type="checkbox"/>	<input type="checkbox"/>
		L. Christofek et al., "SVX4 User's Manual", Version 7, May 2003; pp. 1-20.	<input type="checkbox"/>	<input type="checkbox"/>

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(use as many sheets as necessary)

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Art Unit	2819
Examiner Name	Not Yet Known

Sheet	3	of	4	Attorney Docket Number	14676.01
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			YES	NO
		G.M. Haller, "High-Speed, High-Resolution Analog Waveform Sampling in VLSI Technology", Ph.D. Dissertation, Technical Report No. ICL94-030, Sanford University, March 1994; pp. 83-88.	<input type="checkbox"/>	<input type="checkbox"/>
		G.M. Haller & B.A. Wooley, "A 700-MHz Switched-Capacitor Analog Waveform Sampling Circuit", IEEE J Solid-State Circuits, Vol. 29, No. 4, April 1994; pp. 500-508.	<input type="checkbox"/>	<input type="checkbox"/>
		D. Lachartre & F. Feinstein, "Application Specific Integrated Circuits For ANTARES Offshore Front-end Electronics", 2 <sup>nd</sup> Int'l. Conf. on New Developments in Photodetection, Beaune, France, 1999.	<input type="checkbox"/>	<input type="checkbox"/>
		F. Feinstein, "The ANTARES digital electronics scheme", Intl Cosmic Ray Conf, 1999.	<input type="checkbox"/>	<input type="checkbox"/>
		F. Druillole et al., "The Analogue Ring Sampler: An ASIC for the Front-End Electronics of the ANTARES Neutrino Telescope", IEEE Nuc Sci Sym, Nov 2001.	<input type="checkbox"/>	<input type="checkbox"/>
		"Conceptual Design Report of the 0.1 km <sup>2</sup> Detector", ANTARES Internal Doc, Dec. 1999; pp. 27-28, 42-43.	<input type="checkbox"/>	<input type="checkbox"/>
		J.P. Denance, P. Nayman, F. Toussanel, & M. Punch, "Proposal for the HESS experiment electronics", LPNHE-Paris, HESS Electronics, Feb 1999; pp. 1-6.	<input type="checkbox"/>	<input type="checkbox"/>
		C. Bronnimann, R. Horisberger, & R. Schnyder, "The domino sampling chip: a 1.2 GHz waveform sampling CMOS chip", Nuc Inst & Meth in Phy Res, A420, 1999; pp. 264-269.	<input type="checkbox"/>	<input type="checkbox"/>
		S.A. Kleinfelder, "A Multi-Gigahertz Analog Transient Recorder Integrated Circuit", MS Thesis, UC-Berkeley, 1992; pp. 8-13.	<input type="checkbox"/>	<input type="checkbox"/>
		S.A. Kleinfelder, "A Multi-GHz, Multi-Channel Transient Waveform Digitization Integrated Circuit", 2002.	<input type="checkbox"/>	<input type="checkbox"/>
		G.T. Przybylski, "Analog Transient Waveform Digitizer R1.1 (V2)", LBNL, 2001. ( <a href="http://rust.lbl.gov/~gtp/ATWD/atwd_manual3.doc">http://rust.lbl.gov/~gtp/ATWD/atwd_manual3.doc</a> )	<input type="checkbox"/>	<input type="checkbox"/>

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STATEMENT BY APPLICANT***(use as many sheets as necessary)*

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Sheet 4 of 4

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			YES	NO
		J. Jacobson et al., "Technical Requirements, Engineering Solutions and R&D/Production Planning for the LBL Digital Optical Module", DOM Tech Design Report - LBNL, Dec 1998.	<input type="checkbox"/>	<input type="checkbox"/>
		D. Nygren, W. Greiman, D.M. Lowder, G. Przybylski, & R. Stokstad, "Digital Optical Module & System Design for a Km-Scale Neutrino Detector in Ice", LBNL-42013, Mar 1998; pp. 1-25.	<input type="checkbox"/>	<input type="checkbox"/>
		Datasheet for Maxim MAX108 8-bit 1.5 GS/s ADC, Sept 1999.	<input type="checkbox"/>	<input type="checkbox"/>
		Datasheet for ATMEL TS83102G0B 10-bit GS/s ADC, June 2003, pp. 1-2.	<input type="checkbox"/>	<input type="checkbox"/>
		W. O. LeCroy, Jr., "Current-Sampling Waveform Acquisition For Digital Oscilloscope And Detector Applications", 5 <sup>th</sup> Int Conf on Calorimetry in High-Energy Physics, New York, 1994; pp. 436-441.	<input type="checkbox"/>	<input type="checkbox"/>
		Y. Arai et al., "Development of Front-End Electronics for the Telescope Array Project", Int Cosmic Ray Conf, Aug 1999.	<input type="checkbox"/>	<input type="checkbox"/>
		"TMS320F28x DSP Analog-to-Digital Converter (ADC) Reference Guide", Texas Instruments, SPRU-060A, Aug 2003; pp. 1-1 - 1-4.	<input type="checkbox"/>	<input type="checkbox"/>
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